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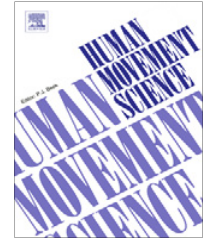
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# Associations between gross Motor Coordination and Academic Achievement in elementary school children

Luís Lopes<sup>a,\*</sup>, Rute Santos<sup>b,c</sup>, Beatriz Pereira<sup>a</sup>, Vítor P. Lopes<sup>d</sup>

<sup>a</sup> Research Centre on Child Studies (CIEC), Institute of Education, University of Minho, Portugal

<sup>b</sup> Research Centre for Physical Activity, Health and Leisure (CIAFEL), Faculty of Sports, University of Porto, Portugal

<sup>c</sup> Maia Institute of Higher Education, Portugal

<sup>d</sup> Research Center in Sports Sciences, Health Sciences and Human Development (CIDESD), Department of Sports Science of Polytechnic Institute of Bragança, Portugal

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## ABSTRACT

We aimed to evaluate the relationship between gross motor coordination (MC) and academic achievement (AA) in a sample of Portuguese children aged 9–12 years. The study took place during the 2009/2010 school year and involved 596 urban children (281 girls) from the north of Portugal. AA was assessed using the Portuguese Language and Mathematics National Exams. Gross MC was evaluated with the Körperkoordination Test für Kinder. Cardiorespiratory fitness was predicted by a maximal multistage 20-m shuttle-run test of the Fitnessgram Test Battery. Body weight and height were measured following standard procedures. Socio-economic status was based on annual family income. Logistic Regression was used to analyze the association of gross MC with AA. 51.6% of the sample exhibited MC disorders or MC insufficiency and none of the participants showed very good MC. In both genders, children with insufficient MC or MC disorders exhibited a higher probability of having low AA, compared with those with normal or good MC ( $p < .05$  for trend for both) after adjusting for cardiorespiratory fitness, body mass index and socio-economic status.

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## 1. Introduction

Mastery of a variety of motor skills is a requisite for children to engage in everyday activities and has important implications for different aspects of development in children and adolescents

\* Corresponding author. Tel.: +351 962803023.

E-mail address: [luis.iec.um@hotmail.com](mailto:luis.iec.um@hotmail.com) (L. Lopes).